This listing of claims will replace all prior versions, and listings, of claims in the application:

Amendments to the Claims:

Claims 1-32 (Cancelled)

Claim 33 (Currently Amended) A method for measuring anesthesia parameters from the head of a patient, the method comprising the steps of:

providing a base element of flexible material, the base element containing an array of at least three electrodes, an optical sensor for monitoring substances in the patient's tissues, and a connector connecting the at least three electrodes and the optical sensor to a patient monitor;

placing the base element on the patient's head so that a first electrode in the array of electrodes is located between the eyebrows of the patient at about the centerline of the forehead;

placing the base element on the patient's head such that second and third electrodes in the array of electrodes are positioned just posterior to the lower part of the pinna and just anterior to the tragus;

utilizing the second and third electrodes in the array of electrodes to stimulate a facial nerve and measure neuro muscular transmission;

using at least ~~two of~~ the first ~~electrodes~~electrode in the array of electrodes to measure electroencephalography and muscle activity; and

using the optical sensor to measure substances in the patient's tissues.

Claim 34 (Cancelled)

Claim 35 (Currently Amended) The method of claim 33 comprising the steps of:

placing the base element on the patient's head such that a ~~second~~fourth electrode of the array of electrodes is located on the temple area between the corner of the eye and the

hairline, a ~~third~~fifth electrode of the array of electrodes is positioned above the eye and at the same vertical level as the first electrode in the array of electrodes, which is located between the eyebrows of the patient at the center of the forehead, about 4 cm above the nose, and a ~~fourth~~sixth electrode of the array of electrodes is positioned below the eye for enhancing encephalography and muscle activity measurement; and

using the first, ~~second,~~fourth ~~third~~and fifth electrodes to measure encephalography and muscle activity.

Claim 36 (Currently Amended) The method of claim 35 comprising the step of:

using at least two of the first, ~~second, third and~~ fourth, fifth and sixth electrodes to measure neuro muscular transmission.

Claim 37 (Currently Amended) The method of claim ~~33~~35 comprising the steps of:

placing the base element on the patient's head such that a ~~second~~fourth alternative electrode in the array of electrodes is located on one of locations ~~F2~~F3 and F4 of the International 10-20 system, a first electrode in the array of electrodes is located between the eyebrows of the patient at the center of the forehead, about 4 cm above the nose and ~~a third~~the sixth electrode is adapted for location below the eye for enhancing muscle activity measurement; and

using the first and ~~second~~fourth alternative electrodes and ~~a fourth~~the sixth electrode in the array of electrodes to measure encephalography and muscle activity.

Claim 38 (Cancelled)

Claim 39 (Currently Amended) The method of claim ~~34~~33 wherein the optical sensor is positioned on the forehead of the patient when the base element is placed on the head of the patient.

Claim 40 (Currently Amended) The method of claim ~~34~~33 wherein the optical sensor is positioned on the root of the nose of the patient when the base element is placed on the head of the patient.

Claim 41 (Currently Amended) The method of claim ~~34~~33 wherein the optical sensor is positioned on the ear of the patient when the base element is placed on the head of the patient.

Claim 42 (Currently Amended) The method of claim ~~34~~33 wherein the optical sensor is an SpO2 sensor.

Claim 43 (Currently Amended) A method for measuring anesthesia parameters from the head of a patient, the method comprising the steps of:

providing a base element of flexible material, the base element containing an array of at least three electrodes, an optical sensor for monitoring substances in the patient's tissues, a mechanical neuro muscular transmission sensor, and a connector connecting the at least three electrodes, the optical sensor, and the mechanical neuro muscular transmission sensor to a patient monitor;

placing the base element on the patient's head so that a first electrode in the array of electrodes is located between the eyebrows of the patient at about the centerline of the forehead;

placing base element on the patient's head such that second and third electrodes in the array of electrodes are positioned just posterior to the lower part of the pinna and just anterior to the tragus to stimulate a facial nerve;

utilizing the second and third electrodes in the array of electrodes to stimulate a facial nerve;

using at least ~~two of~~ the first~~electrodes~~electrode in the array of electrodes to measure electroencephalography and muscle activity;

using the optical sensor to measure substances in the patient's tissues; and

using the mechanical neuro muscular transmission sensor to measure neuro muscular transmission.

Claim 44 (Cancelled)

Claim 45 (Currently Amended) The method of claim 43 comprising the steps of:

placing the base element on the patient's head such that a ~~second~~fourth electrode of the array of electrodes is located on the temple area between the corner of the eye and the hairline, a ~~third~~fifth electrode of the array of electrodes is positioned above the eye and at the same vertical level as the first electrode in the array of electrodes, which is located between the eyebrows of the patient at the center of the forehead, about 4 cm above the nose, and a ~~fourth~~sixth electrode of the array of electrodes is positioned below the eye for enhancing encephalography and muscle activity measurement; and

using the first, ~~second, third~~fourth and fifth electrodes to measure encephalography and muscle activity.

Claim 46 (Currently Amended) The method of claim ~~45~~43 wherein the mechanical neuro muscular transmission sensor is a piezoelectric sensor and comprising the steps of:

placing the base element on the patient's head such that the neuro muscular transmission sensor is located over one of the procerus, frontalis, corrugator or orbicularis muscle or a combination of these; and

using the mechanical neuro muscular transmission (NMT) sensor to record ~~neuro muscular transmission~~muscle response to NMT stimulus.

Claim 47 (Currently Amended) The method of claim ~~43~~45 comprising the steps of:

placing the base element on the patient's head such that a ~~second~~fourth alternative electrode in the array of electrodes is located on one of locations ~~F2~~F3 and F4 of the

International 10-20 system, the first electrode in the array of electrodes is located between the eyebrows of the patient at the center of the forehead, about 4 cm above the nose and ~~a third~~the sixth electrode is adapted for location below the eye for enhancing muscle activity measurement; and

using the ~~first and second~~fourth alternative and the sixth electrodes ~~and a fourth electrode~~ in the array of electrodes to measure encephalography and muscle activity.

Claim 48 (Currently Amended) The method of claim 47 wherein the mechanical neuro muscular transmission sensor is a piezoelectric sensor and comprising the steps of:

placing the base element on the patient's head such that the neuro muscular transmission sensor is located over one of the procerus, frontalis, corrugator or orbicularis muscle or a combination of these; and

using the mechanical neuro muscular transmission (NMT) sensor to record ~~neuro muscular transmission~~muscle response to NMT stimulus.

Claim 49 (Previously Presented) The method of claim 43 wherein the optical sensor is positioned on the forehead of the patient when the base element is positioned on the head of the patient.

Claim 50 (Previously Presented) The method of claim 43 wherein the optical sensor is positioned on the root of the nose of the patient when the base element is positioned on the head of the patient.

Claim 51 (Previously Presented) The method of claim 43 wherein the optical sensor is positioned on the ear of the patient when the base element is positioned on the head of the patient.

Claim 52 (Previously Presented) The method of claim 43 wherein the optical sensor is an SpO2 sensor.

Claims 53-54 (Cancelled)